[0024] The spatial frequency information for each channel may be determined in real time in response to texturing being performed in a graphics processing unit comprising the texture processing unit, and the obtaining of the texture coordinate and the spatial frequency information for each channel may include obtaining the spatial frequency information for each respective channel from the graphics processing unit.

[0025] The determining of the filtering control signal for each channel may include obtaining a sampling frequency for the texture, determining a channel having the highest spatial frequency as a reference channel based on the spatial frequency information for each channel, determining the filtering control signal of the reference channel based on the spatial frequency of the reference channel and the sampling frequency, and comparing the spatial frequency of the reference channel and spatial frequencies of other channels excluding the reference channel, and determining the filtering control signals of the other channels excluding the reference channel.

[0026] The determining of the filtering control signal for each channel may include obtaining a sampling frequency for the texture, and comparing the spatial frequency for each channel included in the spatial frequency information for each channel and the sampling frequency, and determining the filtering control signal for each respective channel.

[0027] The performing of the filtering for each channel may include operating a first filter comprising anti-aliasing filters corresponding to channels configuring the texture and a second filter comprising filters performing filtering according to a filtering mode, for each channel according to the filtering control signal for each respective channel.

[0028] The filtering control signal for each channel may include a control signal for each channel for anti-aliasing filtering and a control signal for each channel for a filtering mode.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] FIG. **1** is a diagram illustrating a graphics processing unit according to an embodiment.

[0030] FIG. **2** is a diagram describing an operation of processing a three-dimensional graphic by a graphics processing unit according to an embodiment.

[0031] FIG. **3** is a diagram describing a configuration and an operation of a texture processing unit according to an embodiment.

[0032] FIGS. **4**A, **4**B, **4**C, **4**D, and **4**E are diagrams describing a relation between a spatial frequency and a sampling frequency of each channel of a texture according to an embodiment.

[0033] FIG. **5** is a diagram describing an operation of a controller according to an embodiment.

[0034] FIG. **6** is a diagram describing an operation of a controller according to an embodiment.

[0035] FIG. **7** is a diagram describing an operation of a texture processing unit according to an embodiment.

[0036] FIG. **8** is a diagram describing a configuration of a texture filter according to an embodiment.

[0037] FIG. **9** is a diagram describing a configuration and an operation of a texture filter according to an embodiment.

[0038] FIG. **10** is a diagram describing an operation of a texture processing unit according to an embodiment.

[0039] FIG. **11** is a diagram describing a configuration and an operation of a texture filter according to an embodiment.

[0040] FIG. **12** is a flowchart describing a texture processing method according to an embodiment.

[0041] FIG. **13** is a detailed flowchart describing an operation of determining a filtering control signal for each channel in a texture processing method according to an embodiment.

[0042] FIG. **14** is a detailed flowchart describing an operation of determining a filtering control signal for each channel in a texture processing method according to an embodiment.

[0043] Throughout the drawings and the detailed description, the same reference numerals refer to the same elements. The drawings may not be to scale, and the relative size, proportions, and depiction of elements in the drawings may be exaggerated for clarity, illustration, and convenience.

DETAILED DESCRIPTION

[0044] The following detailed description is provided to assist the reader in gaining a comprehensive understanding of the methods, apparatuses, and/or systems described herein. However, various changes, modifications, and equivalents of the methods, apparatuses, and/or systems described herein will be apparent to one of ordinary skill in the art. The sequences of operations described herein are merely examples, and are not limited to those set forth herein, but may be changed as will be apparent to one of ordinary skill in the art, with the exception of operations necessarily occurring in a certain order.

[0045] The features described herein may be embodied in different forms, and are not to be construed as being limited to the examples described herein. Rather, the examples described herein have been provided so that this disclosure will be thorough and complete, and will convey the full scope of the disclosure to one of ordinary skill in the art.

[0046] FIG. **1** is a diagram illustrating a graphics processing unit according to an embodiment. It may be understood to those of ordinary skill in the art, upon a full understanding of the present specification, that other general-purpose components may be further included in addition or in the alternative to components shown in FIG. **1**.

[0047] Referring to FIG. **1**, a graphics processing unit (GPU) **100** may include a rasterizor **110**, a shader core **120**, a texture processing unit **130**, a pixel processing unit **140**, and a tile buffer **150**. The graphics processing unit **100** may transceive data with a memory **200** located outside the GPU **100** through a bus **300**.

[0048] The graphics processing unit **100** shown in FIG. **1** may be an apparatus for processing a three-dimensional graphic, and may use a tile-based rendering (TBR) method. In other words, the graphics processing unit **100** may store a processing result in the tile buffer **150** by controlling a plurality of tiles divided into predetermined sizes to be processed through the rasterizor **110**, the shader core **120**, and the pixel processing unit **140** in order to generate a three-dimensional graphic corresponding to one frame. The graphics processing unit **100** may process all the tiles configuring the frame in parallel using a plurality of pipelines, and each pipeline may be configured by (e.g. contain) the rasterizor **110**, the shader core **120**, and the pixel processing unit **140**. The graphics processing unit **100** may transmit the processing result stored in the tile buffer **150** to a frame buffer **18** (see FIG. **2**) of the memory **200** when the plurality of tiles corresponding to one frame is processed.